

III. REMARKS

In the Office Action (the Final Rejection), claims 1, 2, 8 and 10-13 were rejected under 35 U.S.C. 103 as being unpatentable over Gong (Automatic Parsing..), and further in view of Dimitrova (Semantic video database retrieval) for reasons set forth in the Office Action. Claims 3-6, 9 and 14-20 were rejected under 35 U.S.C. 103 as being unpatentable over Dimitrova in view of Gong for reasons set forth in the Office Action.

The following argument is presented to distinguish the subject matter of the claims from the teachings of the cited art so as to overcome the rejections under 35 U.S.C. 103 and to show the presence of allowable subject matter in the claims.

In the Office Action, the examiner notes (bottom of page 3 of the Action) that Gong does not explicitly disclose that the description means provides a description based on changes in the shape of an object, wherein the shape of the object is determined by the silhouette of the object. The examiner relies on Dimitrova to provide this teaching. With respect to the amendatory passage inserted in the previous response, namely, that the shape of the object is determined by the silhouette of the object, the examiner (second paragraph on page 11 of the Action) states that, since the specification teaches use of the silhouette to show changes in the shape of an object, the examiner regards the scope of the claim to be unchanged by the foregoing inserted limitation.

The examiner also states (top of page 11 of the Action) that, with respect to the Dimitrova presentation of a stick figure that is rigid in nature, even though the sub-parts of the object are rigid, the shape of the object, as a whole, changes; and that this enables an analysis of the changes in the relative positions of the sub-parts to determine activities of the object.

With the foregoing assessment of the previous amendatory passage, the examiner fails to appreciate a major improvement in the presentation of a video, which improvement is made possible by the present invention.

As noted in the remarks of the previous response, Dimitrova, in Fig. 3, presents a picture of a moving object, wherein a person is represented as a stick figure composed of various straight lines representing arms, legs and back. Fig. 3 also presents arrows (vectors) to show relative movement among the various components (arms, legs) of the stick figure. The shape of the person, as represented by the stick figure, can be understood only in terms of the relative orientations of the components (whether an arm points up, down, or sideways, for example).

In a video constructed by Dimitrova, the available information for presenting the figure of a person is limited to what is known from the stick figure. In contrast, in a video constructed by the teachings of the present invention, much more information is available for presenting the figure of the person, the information being based on a silhouette of the person.

As is explained in the present specification (page 13 at lines 4-7, page 17 at lines 1-10), there are consecutive silhouettes of plural pre-instructed action patterns, and input movement patterns are identified by comparison with the pre-instructed patterns. A silhouette gives a realistic viewing (admittedly in two dimensions rather than in three dimensions) of a person which is unobtainable by use of a stick figure. For example, the side view of a person (presumably a soccer player, to use the example of the cited art) lying on the ground is indistinguishable from a log, when presented in stick figure representation. On the other hand, with a silhouette, one can recognize the head, the chest and the legs of the person lying on the ground.

The pre-instructed (or reference) action patterns of the silhouettes may employ a library of silhouettes of persons in a variety of positions, such as a frontal view with

arms out-stretched, or raised in the position of catching a ball. The library may include, by way of further example, the side-view silhouette of a person running with one arm raised and the other arm outstretched. Furthermore, the library of reference action patterns may include silhouettes of fat players and skinny players, as well as male players and female players, on the soccer field.

The present specification (page 17 at lines 1-10) teaches that changes in a silhouette show specific changes according to actions of the object, and that the aforementioned consecutive silhouettes of plural pre-instructed (reference) action patterns are to be used for comparison with input movement patterns (silhouettes) to determine object motion. Lines 9-10 of the referenced passage of the specification state that the movement patterns are identified by seeking which instructed patterns they are closest to. Thus, by use of multiple reference silhouettes, which includes silhouettes of both fat and skinny persons, and by seeking a closest correlation, one can obtain a much more accurate and more detailed video representation of action on the soccer field or of numerous other action situations for which a video presentation is desired.

In order to emphasize this distinction between the present invention and the teachings of the cited art, the independent claims have been amended further, in this response, to state that

"changes in the silhouette show specific changes according to actions of the object, there are consecutive silhouettes of plural pre-instructed action patterns, and input movement patterns are identified by comparison with the pre-instructed patterns"

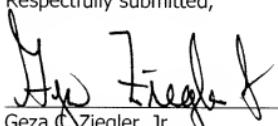
which amendment is based on material from the foregoing passages (page 13 at lines 4-7, page 17 at lines 1-10) of the specification.

Therefore, it is believed that this argument and amendment has overcome the grounds of rejection of the present claims, and that the present claims have allowable subject matter.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,



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28 August 2006
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